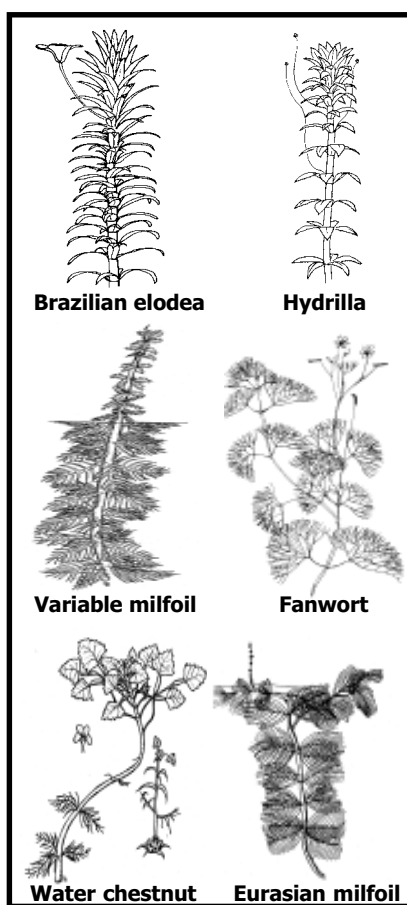


Oh Where, Oh Where Have the Milfoil-Free Lakes Gone?

by Amy P. Smagula, Exotic Species Program Coordinator

The summer of 2001 was a banner year for the growth of exotic aquatic plants in New Hampshire. Unfortunately for us, and the state's lakes, the long, hot sunny days and warm water temperatures made for prime growing conditions for many of these nuisance plants.

Variable milfoil, now found in 48 waterbodies, continues to be the most prominent exotic aquatic plant in New Hampshire. Other exotics are also located throughout the state including fanwort in 6 waterbodies, Eurasian milfoil in 2 waterbodies, and water chestnut in one waterbody. In 2001, a new exotic species, Brazilian elodea, was discovered in one waterbody. In total, exotic aquatic plant infestations have been found in 53 waterbodies,



have taken a more "reactive" approach, waiting for infestations to occur and then managing the infestations in any way possible. Now state biologists and volunteers alike are implementing a "search and destroy" mission against exotic milfoils and other exotic plants. Because eradication of large-scale infestations is still not feasible, early detection and hand removal is the key to warding off a full-lake infestation.

Thanks to the vigilant efforts of Volunteer Weed Watchers last summer, two infestations of variable milfoil were discovered. In July of 2001, volunteers from the Dublin Lake Association in Dublin discovered unfamiliar plants in a cove located adjacent to Route 101 across the street from the Dublin Cemetery. The plants were delivered to the Department of Environmental Services (DES) for identification. Alarmingly, the plants were quickly identified as variable milfoil. The plants, in flower at the time, covered two small patches of the lake that were roughly 100 square feet in area, and individual plant stems were also found growing in surrounding areas.

Milfoil Cover Story cont'd on page 6

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for a total of 58 overall infestations in New Hampshire (some waterbodies have more than one exotic plant).

Fortunately, we may be at the beginning of our own "personal war" against new infestations of exotic milfoil. In the past, we

Connor's Corner



Jody Connor
Limnology Center Director

Welcome volunteer monitors to VLAP's 17th season of monitoring and assessing the state's beautiful lakes! For those of you who have participated in VLAP for many years, we tip our hats to you and thank you for all you have done to preserve our New Hampshire waters! For those of you who have recently joined the VLAP family, we welcome you! We know that you will learn a great deal about your lake through your involvement with the program. You will learn what organisms live in your lake and how those organisms interact with one another to form a whole new world of their own! You will learn "Limno Lingo" and will be able to interpret important lake quality trends. Most importantly, you will learn many ways to help protect your lake so your children and theirs will also enjoy the beauty of the state's waters!

We all know that our weather patterns have been difficult to predict over the last several years. While the 2000-01 winter was wet, the 2001-02 winter was dry and mild. If we do not get substantial precipitation to fill our lakes this spring, we can expect to see some different trends from those observed last summer. The 2001 season can be characterized as one of high phosphorus load and warmer waters, which led to significant populations of filamentous green algae and Cyanobacteria throughout the state. If the current weather trend continues, flushing rates in the streams and lakes will be significantly

lower, greater shoreline areas will be exposed (littoral zone) and the water will be warmer earlier (as ice out was very early this year). Again, we can expect an early increase of diatoms from March through June. Warmer water temperatures this spring combined with more exposed littoral area could mean greater populations of filamentous green algae in July and August. Look for earlier and greater aquatic plant growth this spring and summer as greater sun incidence will stimulate higher lake productivity. If there are exotic plants in your lake/pond, it may be another banner year for heavy growth. Shallower waters may limit fish spawning grounds this spring. Warmer waters and competition for spawning grounds may lead to fish kills in late May and early June. Keep your eye out for these changes and make sure to note anything unusual that you observe!

The Biology section of NHDES continues to improve upon many of our popular programs. Clean Lakes Program Diagnostic studies are still progressing and leading to increased Best Management Program funding. These programs decrease phosphorus loading to the lake, which often lead to improved lake quality and increased clarity. While the reports for Baboosic Lake, Amherst/Merrimack, and Pleasant Lake, Deerfield are under in-house review, Partridge Lake, Littleton has completed the sampling phase and Rust Pond, Wolfeboro has recently begun the sampling phase. Plans are in the works to begin a study on Nutts Pond, Manchester in May 2002.

Once Diagnostic studies have scientifically identified the sources of phosphorus to a lake and recommendations are made

to reduce the phosphorus load to the lake, non point source grants are used to implement watershed Best Management Practices (BMPs). Once BMPs are installed, they are monitored to assess their capability to remove pollutants. The lake is also monitored to measure how the lake responds to watershed management techniques. Currently, French Pond, Henniker; Lake Todd, Bradford; Chalk Pond, Newbury; Great Pond, Kingston; Lake Winnisquam, Meredith; Baboosic Lake, Amherst/Merrimack; Dorrs and Maxwell Ponds, Manchester; and Mine Falls Pond, Nashua have all been awarded funding to implement watershed management.

We have now collected over 1,500 fish for our Mercury in Fish Program, which resulted in a new fish consumption advisory for the state. Generally, we now know that both large and small mouth bass, as well as pickerel, have the highest mercury concentrations. Salmon and trout have lower mercury levels. Since there is a relationship between mercury concentration and fish age, the advisory recommends that bass and pickerel over 12 inches in length not be eaten. Please remember to continue to collect those fish from your lake and bring them to the Limnology Center for processing and mercury analyses. Because of volunteers, the information in the mercury database has increased and a new advisory is in affect. Keep those fish coming!!!

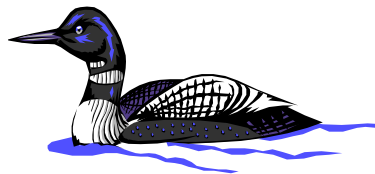
We have been very busy with legislation this year. The hot bill this year is House Bill 592, which creates a new exotic aquatic plants prevention and research program. This bill will create a program for non-profit

Connor's Corner cont'd on page 10

Wildlife Notes

Mercury In Loons

by Bob Estabrook, NHDES Chief Aquatic Biologist



We all know that mercury in fish is a public health issue. In fact, many of you have submitted fish to the Limnology Center to be analyzed for mercury. New Hampshire, along with most other states in the country, has fish consumption advisories because of the presence of mercury (please refer to www.dhhs.state.nh.us/bhra for the latest advisory and a listing of the fish-mercury data by lake). Did you also know that other top-level predators (birds and mammals) that feed on fish are also at risk to mercury toxicity? Bald eagles, great blue herons, kingfishers, loons, otters and minks are some of the animals that may be exposed to mercury toxicity due to fish consumption.

Loons are probably the best example of vulnerability to mercury poisoning, both because they feed almost exclusively on fish and because they appear to be more sensitive to mercury than some other species (e.g., herring gulls). And, there is more information on loons and mercury than on any other species, particularly in New Hampshire. The Loon Preservation

Committee has been conducting population studies for years and recently teamed up with the US Fish & Wildlife Service and BioDiversity Research Institute to specifically study the impacts of mercury on loons.

New Hampshire is downwind of many mercury sources (air emissions from coal-fired power plants, waste incinerators, etc.). Researchers have shown a dramatic increase in the amount of mercury in loon eggs going from west to east across the country – from Alaska to Maine. Mercury levels in New Hampshire loon eggs and blood are some of the highest in the nation. Based on certain risk assessments, nearly 60% of the eggs laid by NH loons are considered to be at high risk to mercury toxicity.

Male loons are at greater risk than females because of their tendency to eat larger (older) fish with more mercury and because females can rid their bodies of some mercury by passing it into their eggs. The effects of mercury on loons are generally sublethal effects – physiological, behavioral or reproductive

changes that effect loon productivity. Loons with high mercury levels in their blood show a decline in reproductive success. They lay fewer eggs, fewer eggs hatch, and the hatchlings have a slower growth rate. High mercury loons spend less time foraging (both for themselves and to feed their chicks), less time incubating their nest, less time showing self-maintenance behavior (feeding & preening), and are less aggressive in protecting their territory or nests. Juvenile loons with high blood mercury have been observed to spend less time on the backs or under the wings of adults and are thus more exposed to predation.

So when you see a fish consumption advisory, remember that loons do not have the same choice as you to reduce their fish intake. Loons continue to be exposed to the full impacts from mercury toxicity. We ask you to please continue to support mercury reduction programs (please refer to www.des.state.nh.us/nhppp/mercury.htm for further information on mercury programs).♦

The 2002 VLAP Refresher Workshop will be held on Saturday, May 18, at DES in Concord. To meet NHDES quality assurance requirements, we strongly recommend that at least one monitor from each association attend the workshop. Workshop participants will learn about toxic algae, how much mercury is in New Hampshire fish, how to identify aquatic plants, and will also receive a "refresher training" on how to collect samples from lakes/pond and tributaries! If you have not yet received information about the workshop and would like to attend, please contact Andrea LaMoreaux, the VLAP Coordinator, at (603) 271-2658, or via email at vlap@des.state.nh.us.

Wildlife Notes

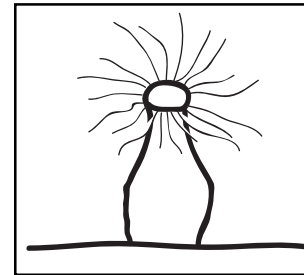
The Freshwater Jellyfish

by Alica Carlson, Clean Vessel Act Program Assistant

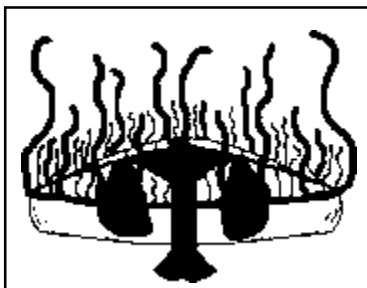
Very few of us have been lucky enough to catch a glimpse of the freshwater jellyfish. For those of you who have not seen one, here is a short description.

Craspedacusta sowerbii (the freshwater jellyfish) was first noted in England in 1880, but was first discovered in the United States in 1908. Typically, this creature appears in small ponds, however, there are conflicting reports to what types of waterbodies freshwater jellyfish most commonly inhabit. Some literature suggests they are found in old quarries, while other literature indicates that they thrive in new reservoirs. Wherever they are found, many scientists agree they are elusive!

In its polyp form, the jellyfish is less than 2-millimeters long. It is often unnoticed by the naked eye, mostly because it usually resides in the mucky bottom of a pond. As the polyp creeps along the substrate it eats tiny invertebrates like zooplankton. The polyps can reproduce asexually. Small buds emerge and before too long the adult jellyfish are found floating freely in the water. The freshwater jellyfish can reproduce sexually, although populations are rarely of mixed sexes. For the most part, all male or all female congregations have been observed.



Polyp on pond bottom.



Freshwater jellyfish medusa.

The freshwater jellyfish medusa is about the size of a quarter. It is translucent, but may appear white or green. Its sex organs, which hang from the center of the bell, make the jellyfish more visible. The tentacles around the bell are used to capture prey. Due to their small size, the freshwater jelly fish medusae are not harmful to humans; only small invertebrates are susceptible to their stings. In the medusa stage, the freshwater jellyfish may be visible for only a few months in the summer time, usually from July to October. It seems that they prefer the warmer waters of late summer. Don't count on seeing them in the same pond two years in a row; they may appear again in a few years or not at all!

To date, based on information compiled by NHDES and the Indiana University of Pennsylvania, here is a list of reported sightings in New Hampshire's lakes:

Angle Pond, Sandown
Big Island Pond, Derry
Crystal Lake, Manchester
Frost Pond, Jaffrey
Harvey Lake, Northwood
Lowd Pond, Madison
Lake Massasecum, Bradford
Lake Naticook, Merrimack
Province Lake, Effingham
Russell Pond, Sutton
Stone Pond, Marlboro
White Oak Pond, Holderness

Baboosic Lake, Merrimack
Clement Pond, Hopkinton
French Pond, Henniker
Harrisville Pond, Harrisville
Knights Pond, Alton
Lake Massabesic, Auburn
Mirror Lake, Tuftonboro
Private Pond, Belmont
Purity Lake, Madison
Squam Lake, Holderness
Turtle-town Pond, Concord

If you observe one of these creatures in your lake or pond, please let us know! The Indiana University of Pennsylvania is conducting research on freshwater jellyfish. To find more information about this research, check out their website at: <http://nsm1.nsm.iup.edu/peard/jellyfish.html> ♦

Volunteer's Views

Impressions of VLAP Lakes and VLAP: What Volunteer Monitors Had to Say:

by Andrea LaMoreaux, VLAP Coordinator

Volunteer lake monitors from the 141 monitoring groups that participated in VLAP last season received program surveys from DES this past fall. The survey included a number of questions such as: "What is the main reason your group participates in VLAP?"; "What do you perceive to be the biggest threat to your lake/pond?"; "What pollution sources do you believe exist in your watershed?"; and, "How can VLAP be improved?". In addition, we asked each monitoring group to rate a number of things, including the quality of the lake/pond that they monitor, the DES staff, the staff at the satellite laboratories, the annual newsletter, the annual VLAP workshop, and the annual lake report. We sent out the surveys because we want to better understand volunteer monitors' perceptions of the problems that their lake/pond is facing as well as their perceptions of the Volunteer Lake Assessment Program!

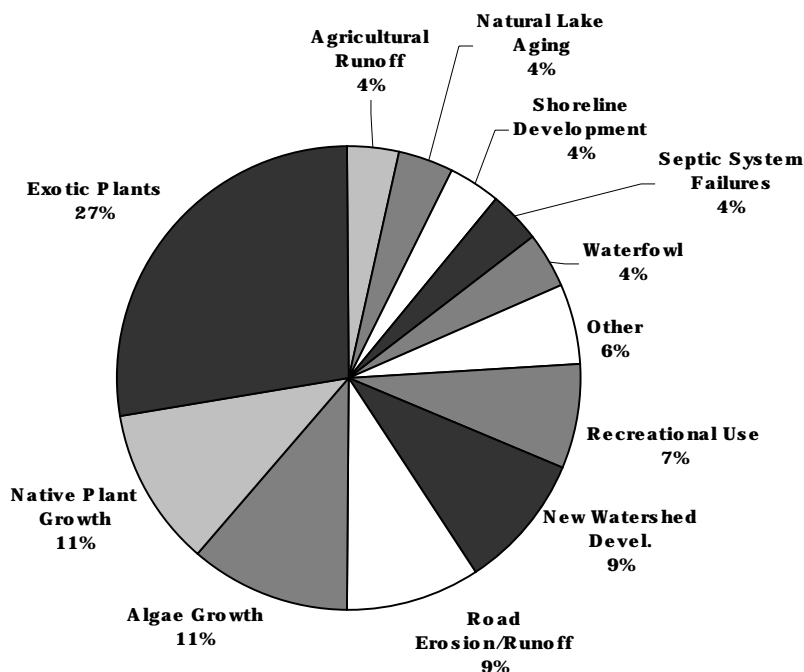
We received approximately 70 of completed surveys back (a 50% return). We want to thank those monitors who took the time to fill out the survey! Here is a summary of what the volunteer monitors had to say...

Question: The main reason we participate in VLAP is:

Response: Approximately 50% of those surveyed responded that the primary reason that their monitoring group participates in VLAP is to increase the data that exists for the lake/pond and to establish historical trends. Approximately 21% responded that the number one reason is to raise awareness of lake resi-

dents about water quality. Other primary reasons for participating in VLAP include: to protect lake users from health risks (7%); to stop a particular pollution source (4%); and, to provide more information for local planning purposes (1%). Although monitoring the water quality of the lake/pond that you live near to guide local planning efforts may not be your group's primary motivating reason for sampling, please remember that volunteer water quality data can be a useful source of information to guide these efforts. As always, we want to remind you to share the annual report for your lake/pond with Town officials and planning commissions!

Perceived Threats to VLAP Lakes



Question: What do you perceive to be the greatest threat to your lake/pond?

Response: On a scale of 1 (the least) to 10 (the greatest), the volunteer monitors were asked to rate what they felt were the greatest threats to the water quality of the lake/pond that they monitor. Approximately 27% of those surveyed responded that exotic plants were the greatest threat. Approximately 11% of those surveyed responded that native plant growth and algae growth were the greatest threat.

Question: On a scale of 1 (poor quality) to 10 (excellent quality), I would describe our lake/pond as a ____.

Response: For the VLAP lakes/ponds that surveys were returned, the calculated average rating for the water quality was approximately 7.4 out of 10! This means that, on average, the volunteer monitors feel that the quality of their lake/pond is very good!

Milfoil Cover Story cont'd from page 1

Because these patches of variable milfoil were found early, DES divers responded immediately, asking volunteers to use buoys or floats to mark the patches that they found. The next day, a team of DES biologists and interns were on site to hand remove the small patches of variable milfoil. The larger patches, which could not effectively be hand pulled, were covered with a semi-permeable 'benthic barrier' which compresses the plants to the sediments and blocks sunlight penetration, effectively stunting and eventually killing the plants. DES divers visited the lake two more times in 2001, diving to remove individual plant stems and removing any plants not completely covered by the benthic barrier.

Another lake had a similar story last summer. The Lake Sunapee Protective Association (LSPA) began vigorous Weed Watching activities during the summer of 2000. During an early plant survey of the George's Mills area in 2001, a

"suspicious-looking" milfoil plant was found. Native milfoil (*Myriophyllum humile*) was found growing in the cove and was positively identified by DES biologists. The other "suspicious-looking" plant, however, was much bushier and grew much taller than the neighboring native milfoil. Unfortunately, this "suspicious-looking" plant did not have any fruit or flower structures to aid in identification. Taking a proactive approach, DES and LSPA decided to dive and hand-pull the "suspicious-looking" individual plants, and to install benthic barriers in areas where the plants could not be hand-pulled.

DES placed two large benthic barriers on the bottom sediments of Georges Mills cove, one area was approximately 210 square feet, and the other area was approximately 350 square feet. The barriers were staked down with several pieces of rebar to prevent gas (naturally released from the sediments) from causing the barrier to float to the surface.

In addition to hand-pulling and installing benthic barriers, DES also installed two Restricted Use Areas (RUAs) in the George's Mills cove. RUAs are typically employed to protect the benthic barriers and to decrease the probability of spread through fragmentation. The RUAs were marked by large orange buoys that are connected by ropes with smaller floats dispersed between the larger buoys. These areas are restricted from any recreational boating or fishing activities.



Restricted Use Area marker

By the end of the summer, the milfoil infestations appeared to be limited to the areas where they were initially discovered.

Milfoil Cover Story cont'd on page 7

Manchester Urban Ponds Restoration Program (MUPRP) Update

by Art Grindle, MUPRP Coordinator

A lot has happened over the past year for the Manchester Urban Ponds Restoration Program! We had a very busy field season in 2001. With the help of the program's first intern, Katherine St. Jean from UConn, NH DES staff, and many indispensable volunteers, we collected data to more completely understand the state of Manchester's urban ponds. Data collection activities included sediment depth mapping, sediment core analysis, fish surveys, fish tissue sample analysis, shoreline vegetation surveys, and water quality monitoring. Though elevated metals levels were discovered in the pond sediments and some fish tissue samples, no dangerous contamination was found!

After identifying several restoration opportunities at the ponds over the last two years, restoration project work is finally underway! A Section 319 grant was awarded to the Manchester Conservation Commission for a water quality improvement project at Dorrs Pond this year. Work will begin this summer. Project work is anticipated at other ponds this upcoming season as well. Several community watershed meetings were held during 2001 and 2002 and, as a result, there will soon be a third pond association in Manchester: The Pine Island Pond Association.

We are looking forward to another exciting field season of aquatic surprises and restoration opportunities in 2002. ♦

Milfoil Cover Story cont'd from page 6
Monitoring activities and maintenance hand-pulling will be continued throughout the summer of 2002, and into the future, as needed.

The importance of finding these infestations and relying on smaller scale management practices cannot be highlighted enough! Were it not for the vigilant Weed Watcher monitoring efforts of volunteers, and the rapid response of DES biologists, the cove in Dublin Lake and the George's Mills cove in Lake Sunapee would reasonably expect infestations next season to have increased in surface area and to have spread to other areas of the lake. It only takes a season or two for an infestation to reach levels where plant fragmentation and dispersal can greatly exceed the ability of a management team to control the infestation.

Volunteers from each of these lakes had just gone through "Weed Watchers" training offered by DES. This program offers a binder of training materials including fact sheets, colored pictures, line drawings, and other identification information to volunteers. The Exotic Species Program Coordinator also visits the lake and trains the volunteers how to identify plants in their own waterbodies.

So, we ask you to please volunteer to become a Weed Watcher!

DES recommends that Weed Watching be conducted just once a month from May through the end of September. Larger lakes can be broken into shoreline segments to distribute the work, and monitoring can take place while volunteers are out on the lake fishing, boating, kayaking, or even snorkeling! Because exotic plants can grow very rapidly during the summer (some reports indicate that exotics can grow up to an inch a day!), routine monitoring and rapid reporting are essential in preserving the natural integrity of the state's waterbodies!

If you are interested in participating in the Volunteer Weed Watcher Program, or if you would like a refresher training session on plant identification, please contact Amy Smagula, the Program Coordinator, at (603) 271-2248 or via email at asmagula@des.state.nh.us. If you see a new plant or any plant even remotely "suspicious-looking" growing, or washed-up on shore, please collect a representative sample of the plant (preferably with seeds or flowers), wrap it in a wet paper towel, seal it in a Ziploc bag and deliver it to DES with your VLAP samples or simply mail it to the NH DES Limnology Center (PO Box 95, 6 Hazen Drive, Concord, NH 03302-0095).

Be proactive...The time has come to wage your "personal war" on exotic aquatic plants! ♦



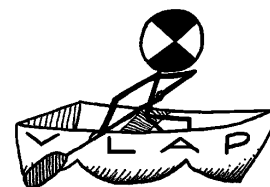
Become a Weed Watcher! Exotic aquatic plants may be on the way to your lake/pond!

Volunteer Views cont'd from page 5

Question: How can VLAP be improved?

Response: A handful of those surveyed responded that sampling would be easier and that their monitoring group might conduct additional sampling events per season if there were additional VLAP satellite laboratories located throughout the state. While we have VLAP satellite laboratories at Colby Sawyer College in New London and at Franklin Pierce College in Rindge, in addition to the DES laboratory in Concord, we realize that many volunteer monitors still have to make a longer than desired commute to pick-up and drop-off sample bottles and equipment. Our goals for the program include establishing additional satellite laboratories throughout the state. Until we are able to establish additional satellite laboratories, please contact the VLAP Coordinator for ideas on how to coordinate sampling events with other monitoring groups in your area to reduce drive times.

Again, the Volunteer Lake Assessment Program would like to thank all of the volunteer monitors for their cooperation and dedication in making VLAP a continued success! If you have any suggestions on how VLAP can be improved, please feel free to contact Andrea LaMoreaux, the VLAP Coordinator, at (603) 271-2658 or Jody Connor, the Limnology Center Director, at (603) 271-3414. Our main goal is to be proactive and continue to improve VLAP for lake associations and monitors! ♦



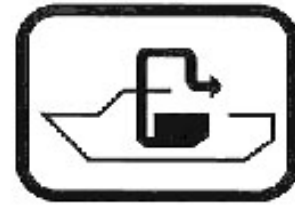
Biology Section Updates

The NHDES Clean Vessel Act (CVA) Program

by Alicia Carlson, CVA Program Assistant

What is the Clean Vessel Act?

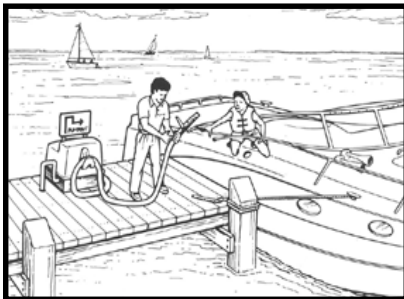
The federal Clean Vessel Act (CVA) was passed in 1992 to help reduce pollution from vessel sewage discharges. A grant was established, with monies from the Sport Fish Restoration account, that would provide states with funds for the installation of pumpout and portable toilet dump facilities. The federal funds constitute up to 75% of all approved projects, with the other 25% provided by the state or marinas.



Keep NH's waters clean...

As many of you are aware, sewage (human wastes) contain bacteria and nutrients that may be harmful to humans and water quality. Bacteria can contaminate shellfish if sewage is dumped near coastal shellfish beds. The contaminated shellfish can then spread diseases, such as typhoid, hepatitis and cholera, to humans if the shellfish are eaten raw.

Nutrients, like phosphorus, in sewage can contribute to algal blooms in waterbodies. Many lake residents are dissatisfied by algal blooms, which can have offensive odors and can blanket the water surface. When large amounts of algae die and sink to the lake bottom, they are decomposed by bacteria, and, in the process, crucial bottom dissolved oxygen is consumed. Fish and other organisms depend upon dissolved oxygen for survival and can be greatly affected by its removal.



Keep our waters clean - use pumpouts!

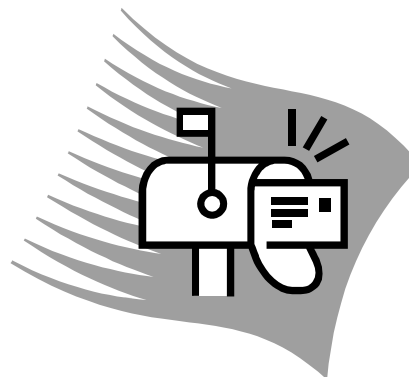
Use pumpouts!

New Hampshire identified 5 lakes and the coastal region as potential waters to attract boats with toilet systems or portable toilets. Lake Winnepesaukee, Lake Winnisquam, Squam Lake, Newfound Lake, and Lake Sunapee were all named to this list. DES is encouraging marinas and towns around these water bodies to install pumpout and dump stations. Currently, there are nineteen pumpout/dump stations located around Lake Winnepesaukee, one pumpout on Lake Winnisquam, and one dump station on Lake Sunapee. A marina on Squam Lake has proposed to install a dump station at their facilities. The coastal region of the state has four pumpout stations. Beginning in May 2002 a pumpout boat will be available to service larger vessels that are unable to use the docked facilities.

For more information on this program and to find out where the pumpout/dump stations are located, check out the website at <http://www.des.state.nh.us/wmb/cva>, or call Alicia Carlson, CVA Program Assistant, at (603) 271-0698. ♡

Keep in touch!

In an effort to stay in touch with our volunteers during the off-season months, we are asking that you provide us with your year-round addresses. This will make sending information, like the annual report and this newsletter, to each of you an easier task. Please indicate which address you would like the annual report, the



newsletter, and general information about the program and upcoming activities sent to. If you have an e-mail address, let us know!

Please contact Andrea LaMoreaux, the VLAP Coordinator, via e-mail at vlap@des.state.nh.us, via phone at (603) 271-2658, or via the postal service at 6 Hazen Drive, Concord, NH 03302. ♡

Biology Section Updates

NHVLAP Lakes Receive Grant Funds for Watershed Protection, Restoration, and Education and Outreach

by Steve Couture, Watershed Protection Specialist

NHDES administers grant programs that are available to municipalities, regional planning agencies, non-profit organizations, and conservation districts to address watershed issues. The Nonpoint Source Local Watershed Initiative and Watershed Restoration grant programs can be used to address several aspects of watershed management including education and outreach programs, organization building, watershed planning and assessment, and implementation, such as the installation of Best Management Practices (BMPs: accepted structural and non-structural means that protect water quality and quantity).

Steve Couture, Watershed Protection Specialist for the NHDES Biology Section, has helped several NHVLAP organizations apply for and receive funding from NHDES! A few recent examples include:

Chalk Pond: In 2001, the Town of Newbury received a NHDES Local Watershed Initiative Grant to address the sedimentation caused by road drainage. This grant included a Sunapee Hills Association educational and outreach component. This past fall, the Town began installing the drainage improvements that will divert and redirect runoff through several BMPs before emptying into Chalk Pond. The construction will be completed in 2002.

The Sunapee Hills Association completed two of their project tasks this year. They conducted an extensive research



The NHDES Local Watershed Initiative Grant received by the Town of Newbury and the Sunapee Hills Association will fund the installation of BMPs to prevent this sediment plume from expanding further into Chalk Pond.

effort to compile the design specifications for each septic system in the watershed, and mailed this information and a general septic system fact sheet to each homeowner. The Association also mailed phosphorus and aquatic plant educational material to each homeowner. In 2003, the Association will continue its educational efforts with a newsletter and the installation of an informational display at the Association's recreation hall.

Lake Todd: In 2001, the Town of Newbury received a NHDES Local Watershed Initiative Grant to fund an engineering design to manage stormwater runoff from a road (Gillingham Drive) that borders one side of the lake. This design will enable the Town to consider implementing stormwater BMPs when Gillingham Drive undergoes major reconstruction in 2003.

French Pond: In 2001, the Henniker Conservation Commission received a NHDES Local Watershed Initiative Grant to quantify the phosphorus loading of the tributaries leading to

French Pond. This year, the Conservation Commission and French Pond Association (FPA) collected samples on a bi-monthly basis from three tributaries, the outlet, and the in-lake deep spot. Rain event samples were also collected this year and will continue in 2002. In addition to the monitoring, the FPA conducted a survey to document the status of residential septic systems located on, and adjacent to, French Pond. The final project report will summarize the hydrologic and limnological results of the study and present a detailed phosphorus budget incorporating tributary loading and internal cycling of phosphorus in French Pond.

These grant programs may be available for watershed management or in-lake remediation. For more information regarding the NHDES Nonpoint Source Local Watershed Initiative and Watershed Restoration grant programs, visit the NHDES web site at www.des.state.nh.us/wmb/was/grants.htm or contact Steve Couture at (603) 271-8801 or scouture@des.state.nh.us ♦

Connor's Corner cont'd from page 2
 organizations, municipalities, or state agencies to devise creative programs that will help prevent the spread of exotic plants within a lake or to other waterbodies throughout the state. This legislation also provides funding to institutions of higher learning to conduct research on variable milfoil or other exotic aquatic plants. This bill passed the Finance Committee on February 6 (19-0) and passed the full House a week later. The bill was heard on March 27th by the Senate Environment Committee. Remember, you can be heard by either calling or sending a letter to your Senator or by testifying the day of the hearing. Check your paper or the State House website at www.state.nh.us for hearing dates.

Other important news concerning exotic aquatic plants is that DES has entered into a contract with Dartmouth College to conduct genetic research on New Hampshire milfoil species. This will lead to a quick and ac-

curate identification technology for different milfoils in state waters. It may also lead to new ways to control milfoil, or even open doors to a means of eradication! Also, New Hampshire will be spending approximately \$130,000 this spring to control exotic aquatic plants in about 25 lake locations throughout the state. And, finally, be on the lookout for two new exotic weeds this summer!!! Brazilian elodea was observed in Manchester during the summer of 2001 and the dreaded Hydrilla was observed in Massachusetts. These two plants may be more aggressive than milfoil and could even out compete it! (Refer to the cover story on page 1.)

With the increased concern with toxic blue-green algae (Cyanobacteria) and their effect on public health, DES is formulating a Cyanobacteria management plan for recreational waters. There has been enough

research on toxic blue-greens to prove that these toxins have a deleterious effect to both animals and human health. The management plan will focus attention on public beaches where blue-green algal scums are observed. Those recreational sites containing scums will be posted with a public health warning to avoid recreational activities in these areas.

In closing, I want to thank you all for sampling those beautiful gems this summer! Don't forget to let us know if you observe anything out of the ordinary. It is extremely important to find sources of pollutants, new exotic aquatic plant growths, and to enforce environmental regulations as soon as possible. If you would like a biologist to appear at an association meeting, call now. *Remember, always be careful when you are on the lake but always have a good time while monitoring!!!* ♦



Other Volunteer Opportunities: The Invasive Plant Survey of New England

The New England Wild Flower Society, Silvio O. Conte National Fish and Wildlife Refuge, and the University of Connecticut, have recently been awarded a grant from the United States Department of Agriculture to track the distribution and spread of over one-hundred invasive plant species throughout New England. A corps of volunteers will be trained to identify invasive plants and document their current range. In 2002 we are seeking to train twenty-five volunteer participants in each New England state to survey their local area. An additional fifty volunteers in each state will be recruited and trained in 2003 and 2004. Trainings will occur in the spring and summer at a series of workshops held in each New England state. Trainings will take two days and include an indoor classroom informational session using slides, herbarium sheets, and other prepared materials, and an outdoor session consisting of field visits to local sites where infestations of invasive species occur.

Information collected by volunteers will be entered into the Invasive Plant Atlas of New England (IPANE), at the University of Connecticut. The data in IPANE will be posted on the Internet and used for early detection of problem species, research, and decision making on how to control invasive species, to slow their spread, and reduce their impact on our native flora. More information on this project and the survey can be found on the New England Wild Flower Society web site www.newfs.org or the web site for the Invasive Plant Atlas of New England at www.eeb.uconn.edu/invasives/ipane.

People interested in volunteering for the Invasive Plant Survey should contact Bryan Connolly, Invasive Plant Survey Coordinator, 76 Warrenville Rd., Mansfield Center, Connecticut 06250, phone (860) 423-8305 or (508) 877-7630 ext. 3209, email bconnolly@newfs.org or connollybryan@hotmail.com ♦

Frequently Asked Questions: NHDES Wetlands Bureau

(taken from NHDES Fact Sheet WD-WB-13)

Q: How long may a dock be?

A: On shoreline frontage of at least 75 feet in length, a seasonal dock can be 6 ft. wide by 40 ft. long on a lake 1,000 acres or larger. The standard size for docks on smaller lakes is 6 feet wide by 30 feet long. On shoreline frontage less than 75 feet long, the standard size for a dock is 4 feet wide by 24 feet long.

Q: What can I do to stop erosion of the shoreline?

A: Water runoff should be diverted away from steep slopes and any exposed soils should be quickly covered with fiber matting and seeded. To prevent erosion, maintain or plant trees and shrubs, which provide a good root structure to stabilize the bank as well as provide cover for the soil. Rock rip-rap may be permitted by NHDES only where waves or changes in water elevations render other methods ineffective.

Q: Can I install a piling or crib dock?

A: Seasonal docks are the least impacting type of dock construction. Permanent docks are permitted only in areas where wind or wave conditions prevent the use of a seasonal pier on the frontage. Seasonal docks are less intrusive on lakes as they are removed during the winter months and do not require the use of aerators to protect them from ice damage. The use of aerators disrupts a lake's cycle and creates dangerously thin ice — a hazard to snowmobilers and ice fishermen.

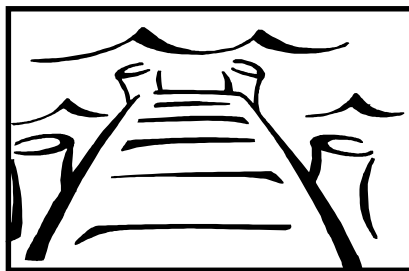
Q: Can I dredge the area around a dock?

A: Permits may be obtained from NHDES to remove rocks that are navigational hazards. A rock is

considered a navigational hazard to the owner if it is within a boatslip or approach to a dock and within 3 feet of the water surface and within 50 ft. of the shoreline. Dredging of sediments is only allowed with a permit around structures such as boathouses or breakwaters, which cannot easily be modified to attain necessary water depths for docking.

Q: Do I need a permit for a boat lift or jet ski lift?

A: Yes! A permit is needed to install all boat lifts or jet ski lifts, including seasonal ones. A boat lift equals one boatslip.



Q: Is it okay to put sand on a beach?

A: A permit is required for replenishment of sand. Sand on existing beaches may be replenished once every 6 years with a permit from the Wetlands Bureau. Sand may be placed only on land above the high water line. NHDES encourages the perching of existing beaches with the installation of a structure to retain sand on the beach and prevent sand from being eroded into the lake. Sand carries phosphorus into our lakes, which causes algae growth, turns the water green, and accelerates the aging of lakes.

Q: Is it okay to build a deck, patio, or similar structure along the shore?

A: In general, permits for struc-

tures that facilitate land-based activities are not approved for transferring those activities to the water or areas within jurisdiction. Repairs to legally existing structures require a permit before any work begins. The N.H. Comprehensive Shoreland Protection Act (RSA 483-B) does not allow the placement of accessory structures within 20 feet of the shoreline and limits the size of any accessory structure within 50 feet of the shoreline to a maximum of 150 square feet.

Q: Is it okay if I cut vegetation along the shoreline?

A: The Comprehensive Shoreland Protection Act requires that a healthy, well-distributed stand of trees, saplings, shrubs, and ground cover be maintained within 150 feet of public waters. The less a natural woodland buffer is disturbed, the greater its ability to prevent the degradation of water quality.

Q: Can I use pressure-treated lumber for my dock?

A: NHDES advises against using pressure treated wood in any waters of the state due to possible effects on aquatic ecosystems. However, there is currently no law or regulation that prohibits pressure treated lumber from being used for a dock. Sawing the boards, however, should be done away from the lake so that no sawdust enters the water. Sawdust from pressure treated lumber becomes part of lake sediments and is harmful to fish and wildlife if it becomes part of the food chain.

For more information, please visit the NHDES website at www.des.state.nh.us/wetlands, or call (603) 271-2147. ♦

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